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ABSTRACT

This paper describes the organizational structures and practices discovered in several alternative educational settings in various business and government organizations claiming to use a technical control operating model. The educational organizations studied included a criminal justice training center, a color consulting school, a high technology educational center, a bank training program, a training center for the disabled, and a telecommunications employee training program. The study investigates claims that education in nontraditional sectors is more efficient and effective than conventional schooling in meeting educational goals and delivering instructional activities. Findings are based on interviews with program directors and staff members and an analysis of program objectives descriptions. Initial observations suggest that education occurring outside the traditional sector is not organized in a manner wholly distinctive from traditional schools. The alternative schools exhibit many conventional organizational features, from the credentialed teacher and the credit unit to "good faith" controls rather than direct inspection of instructional or learning outcomes. In fact, alternative schools' resemblance to traditional schools probably helps them use the few technical control features they do exhibit. A second, broader study will further investigate alternative school arrangements and their organizational forms. The paper includes nine references and a table charting characteristics of an ideal technical control model for the six schools. (MLH)

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THE ORGANIZATION OF SCHOOLS OUTSIDE THE TRADITIONAL EDUCATIONAL SECTOR: AN EXPLORATORY STUDY

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June 1986

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ABSTRACT

This paper is based upon an exploratory study of the organization of schools outside the traditional educational sector. Our research has been qualitative and our findings are based on interviews with program directors, staff members, and analyses of descriptions of program objectives, curricular materials and information on instructional techniques in various business and governmental organizations. Our discussion is in two parts. First, we describe a technical control model of education and current arguments which favor this model of education. Then based on their diversity and variety, we select six alternative educational settings from our sample and present our findings.

Our findings raise questions about the widespread belief that the more distant the instructional unit is from the institutionalized educational sector, the more technical control is utilized in the organizational control process. Additionally, we found that education occurring outside the tradtional educational system tends to exhibit many of the organizational properties of conventional schools, from the credentialled teacher and the credit unit to the use of "good faith" controls as opposed to the direct inspection of instructional performance of learning outcomes.

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Introduction

This paper describes the organizational structures and practices discovered in alternative educational settings in a variety of business and government organizations. First we develop an ideal type model of these organizations, which we call the technical control model, and then we report preliminary findings using this model as an analytic framework. Our study is motivated by current concerns expressed about the quality and management of education in the traditional sector and the claim that education in non-traditional sectors is more efficient and effective than conventional schools in meeting educational goals and in delivering instructional activities. To examine this widespread belief that education outside the traditional sector is not only more efficient and effective but is organized in a distinctive manner, we look at a variety of schools and examine their structure and instructional activities.

Our research is qualitative and our findings are based on interviews with program directors, staff members, and our analysis of descriptions of program objectives, curricular materials and information on instructional techniques. Our findings do not support the widespread belief that educational institutions outside the public sector are marked either by substantially different organizational forms or by distinctive internal activities. Rather, we find that education occurring outside the traditional educational system tends to exhibit many of the organizational properties of conventional schools, from the credentialled teacher and the credit unit to the use of "good

faith" controls as opposed to the direct inspection of instructional performances or learning outcomes.

Our discussion is organized in two parts. Part I describes a technical control model of education which critics of traditional education characterize as substantially more efficient and effective. In Part II, we present our findings based primarily on six alternative educational settings from our sample that were selected for their diversity among variables such as goals, structure, and size.

I. THE TECHNICAL MODEL OF SCHOOLS

The Pressure To Control Schools

In recent years, a substantial and growing trend toward increased accountability and administrative control of core instructional activity in schools has been noted (Talbert, 1980; Wise, 1977; Wilkes, et. al., 1979). Arguing that increased accountability and control will result in greater efficiency for the schools, more relevant and vital curricula, and better educational performance by students, many groups such as legislatures, academic critics, boards of education, administrations, and parents' groups have called for educational improvement through tighter control and more supervision of instructional activities.

In these arguments reference often is made to some other truly efficient and effective educational system located outside the traditional educational system which should be used as a model. The image evoked is of a lean and unencumbered school

system without an educational bureaucracy, focused by a clearly defined purpose that trains and educates students with efficiency and effectiveness not found in the traditional educational system. Such an ideal education system often is presumed to be in the private sector where direct, precise technical control of schooling is seen as a central tool in achieving administrative efficiency and educational effectiveness. Arguments criticizing the traditional educational sector, however, tend to blur important distinctions between efficiency and effectiveness by seeing both as positively related and by considering them as the result of common causal processes. Before examining the image of a technically controlled school, it is worth examining this distinction.

Efficiency is the comparison of inputs required for a given output; an organization may be said to be efficient if it minimizes the inputs required to obtain a given level of output of a given quality. Critics of traditional educational organizations suggest that they are substantially less efficient than schools in the private sector. The grail often cited is a lean administrative structure, lacking the unnecessary frills which encumber traditional educational bureaucracies and is characterized by cost effective instruction. Eurich (1985), a leading supporter of the corporate classroom model and author of a recent Carnegie Foundation Report, praises education in the private sector, saying "...instructional efficiency characterizes corporate training...the ambience [of corporate campuses] is very different [from traditional schools]...no

leisurely chatting and loitering...behavior is purposeful, the atmosphere intense and concentrated...schedules tight, goals explicit...time (alloted to a course) is determined by purpose (and not by the dictates of the school)..." (pp 49-54).

Efficiency, then, is a measure of internal organizational functioning; in examining the efficiency of an organization we compare the inputs or costs required for a given output. Effectiveness, however, is a measure of the attainment of outcomes by an organization. Measuring the effectiveness of a school is simple conceptually: one measures organizational performance against a set of standards or goals and asks if the organization "measures up." That is, has the school attained its goals? To determine the effectiveness of a school clear and well articulated goals against which to measure outcomes are required (Scott, 1981). Educational institutions located outside of the traditional educational sector often are seen by critics as having a substantially greater level of effectiveness than schools in the traditional sector.

Any discussion of effectiveness must acknowledge the important question, "Who sets the goals for the school?" While efficiency can be measured without regard to the desirability of the output, any assessment of school effectiveness must also ask if the school's goals are needed and important. The ultimate aim of the private, or corporate classroom is assumed to be clear. Ernest Boyer, President of the Carnegie Foundation for the Advancement of Teaching, writes that such schools are, "...ultimately concerned about productivity and performance [of

the larger system]...goals are apt to be specific, even narrow." (Eurich, p. xiv) The goals of a school, as implied in such statements, should be set by the external constituency that the school serves. This insures that the school's goals are considered needed and important by this larger constituency. Such a condition is purported to be found in the non-traditional education sector where the ideal school focuses its education of students on the specific functional requirements of the "real" world. Only in the traditional education sector are schools distracted by irrelevancies and internally imposed bureaucratic requirements.

The nature and extent of the educational activity in non-traditional educational activities is seen as driven by the requirements of the specific market the school serves; these schools have no autonomous ability to define their own role and aims, and schooling does not take on the quality of an end in itself. These schools, it is argued, serve the needs of their constituencies by effectively matching training requirements and educational activities. Such a high degree of focus enables schools to achieve substantially higher student performance, and therefore, higher levels of effectiveness.

Critics of schools in the traditional sector suggest that current educational control systems, often characterized as "loosely coupled," are neither efficient nor effective and need substantial revision. Lutz (1982), reviewing a case study of a

loosely coupled institution, writes, "Loosely coupled? That is hardly contestable. But what was the cost to the institution and its goals...?" (p. 655). The suggested remedy for this educational malaise is a rigorous dose of "tightening up." Lutz continues, "...might not a more tightly coupled system...(produce) better communication, participation, control, and outcomes?" (p. 655). Education, it is argued, should be controlled using the same processes of technical control and rational management that are found elsewhere in society. It should not be autonomous, unguided, and fragmented as it currently is claimed to be. Proponents of this model argue that the means and ends of schooling, the goals and the internal organizational structure, which are currently seen as loosely connected, must be more tightly connected by an appropriate system of technical control.

The model we describe below is an ideal type construction of such a tightly coupled system. It is drawn from those implicit assumptions in the writings of many critics of contemporary public education. The solution to problems of inefficiency and lack of effectiveness is seen as a tightly coupled technical control system. The remainder of this section is devoted to developing this model and then in Part II we use it as a framework to examine education in non-traditional settings.

The Technical Control Model of Schooling

Central to the idealized image of a technically controlled schooling process is a set of tight linkages between the output of the school and, on the one side, the specific functions,

activities, jobs and roles of the environment and, on the other side, the school's internal processes. Eurich illustrates this point, claiming that "...teaching in the corporate classroom is by objective, like management by objective: a planned and stated goal, controls, and measurement of performance. Course development...starts(s) with assessment of need for instruction...operational personnel...help determine clear objectives..." (p. 54). Figure 1 diagrams these linkages, and the discussion below examines each of these in detail. We will also discuss the specific features of schools that characterize the technical control model. Thus, the discussion below should be read as a blueprint for a technical control process which is seen as both a leading alternative to existing inefficient and ineffective control mechanisms in education and as an analytic framework which can be used to structure the examination of existing schools.

A. Concrete Outcome Assessment

Outcomes Dominate

The technical control model sees schools as amenable to precise management. Concrete assessment of the training output by students in a school, based on a clear and specific understanding of the goals of the educational system, is the dominant feature in a tightly linked technical control process. Measures of student output, assessed by actual performance of required tasks, must permeate the control process throughout the entire educational system. Outcome measures are the core of a technical control process; schools do not determine their own

broad goals or specific standards. Testing of students is not peripheral to the educational process but central to it's efficient and effective management.

Who Determines Standards

In the technical control model, the ultimate goals for the school are established by the relevant segments of the school's larger environment and not by the school itself. Eurich states, "The reason for...corporate education...is the always changing nature of technology...the need for the corporation for the best possible worker. Productivity and enrichment of the workers, and hence the company, are the goals." (p. 47) As noted above, arguments for increasing tight technical control of schools assume that schools serve a specific functional requirement which determines the details of the concrete outcome assessment, and in turn, influences the internal technical control process.

In a technical control system, determining the criteria for evaluation and corresponding indicators of success is not the responsibility of the school itself, but that of the specific environment for which the school trains its students. In such a control system, the school responds and adjusts to demands of relevant segments of the larger environment and does not determine or interpret those demands. This means that a relevant environment's requirements and goals must be clear, specific, and well articulated. These goals, then, are linked tightly to the educational activity through the measurement of specific achievement, and not through procedural requirements, paperwork inspections, or similar non-performance related standards. Thus,

neither the school nor the teacher will determine the testing requirements and standards they will use; these are determined by the specific segments of the school's larger environment which demand trained and educated participants.

Examples of these concrete output measures are straightforward: the testing of pilots by actual check flights, the testing of policemen on realistic pistol and driving ranges, the testing of chefs by requirements for meal preparation. We note, however, that such concrete assessment of outcomes is not limited to the teaching of specific skills. Schools aiming for more diffuse outcomes could evaluate their success through the use of a variety of concrete measures of conformity to the desired standard or image. Thus, a school aiming at socialization of police officers to an appropriate ethic could measure indicators of compliance, for example, dress codes, use of appropriate language, or off-duty behavior.

Measurement of the outcome of an educational process is not limited to tests given by the educational system itself. Ideally, a technical control system will follow students into the positions for which they have been trained and will evaluate actual on-the-job performance. These evaluations would be used to guide the school management in planning or revising the educational process. However, what at first glance appears to be an intermediate alternative to these rigorous requirements for outcome evaluation -- the monitoring of job placement after school completion, is not a useful measure of performance for school management. Placement activities are arguably as much

influenced by external circumstance, e.g. timing and network affiliation, as they are by competence and training. Thus, the use of placement monitoring measures is in fact, not in conformity with an ideal model of technical control. An educational activity with a tightly coupled technical control system must narrowly focus its attention on measuring the impact of education on actual goal accomplishment by the larger system.

B. Linkages Between Outcome Tests and Educational Process

In a technical control model, the goals a school strives toward and the standards set for itself and it's students are determined not by the school but by the specific constituency or market in the school's larger environment.

Two aspects of the educational process are dominated by the results of outcome testing in a technical control process. The first aspect is the organizational characteristics of the school and the second is the selection of participants in the educational system, both students and teachers.

1. Organizational Characteristics of the School

The first aspect of the educational process influenced by the results of outcome testing is the nature and organization of the school itself. In a technical control system, the results from outcome testing should have a substantial, indeed dominant, influence in a wide variety of areas. In the following paragraphs we will discuss some of the key structural features of a technically controlled school. It is important to note that while a technical control system may function without some of the specific features discussed below, a tightly coupled technical

control system cannot function without a clear and direct feedback loop from educational outcomes to the educational process.

a. Evaluation of the Teacher

Teacher evaluations and personnel actions based upon evaluations should reflect strongly the differential student success rates on outcome measures. Supervisor relationships with teachers will be dominated similarly by these outcome measures. Indeed, administrative behavior in general within the school will be focused on the improvement of outcome measures through management of the educational process itself and on the management of the relationship of the school to its larger environment as mediated by goal attainment measures.

b. Administrator to Teacher Ratio

A school featuring a technical control process should be marked by higher administrative intensity in the management of the educational process. This would mean a higher ratio of line administrators to teachers to insure that the technical control system is functioning. Substantially lower administrative attention would be paid to peripheral matters and bureaucratic requirements; thus, there would be fewer support staff in relation to teachers.

c. Curricular Control

As outcome measures become central in the management of schools, curricula should be evaluated closely to determine their impact on success rates for specific and required outcomes. A

specific versus a diffuse curriculum will be linked tightly to outcome measures; what is taught will be determined by what is tested, since what is tested is a specific reflection of the needs of relevant segments of the larger environment. Specific curricular decisions, however, will be made by the educational institution itself, using feedback from outcome measures, and not the larger environment. Thus, in a technically controlled system, curricular and program decisions, i.e. distribution of time and effort, are internal management issues determined by the school itself, rather than devices used to legitimate the school and link it to its larger environment.

d. Teacher Role

Implied in the preceding paragraphs is a change in the role and image of the teacher. A technical control system implies a shift in the role and autonomy of the teacher as contributor of unique skills. As externally determined outcome measures become central in the management of the school itself, the teacher in the classroom will be faced with reduced autonomy, in-class inspection, and increasingly specific role definition. In a technical control model, the educational institution determines the teaching methods that reflect the most efficient and effective means of attaining successful outcomes by students based on results of outcome tests.

2. Selection of Participants

a. Students

In a technical control process, the selection procedures used by a school are not controlled directly by the larger

environment. Rather, the selection procedures and admissions criteria used are validated by the results of outcome monitoring tests. Future participants are selected according to criteria which are useful in predicting the success rates of trainees in final outcome tests. Similarly, outcome monitoring information is central to the continuation of students in the school. It is clear that the information demands of a technically controlled, tightly linked system are complex. Constant monitoring of the relationships between training and outcome success rates, the admissions criteria, and the qualities of the candidate are, nonetheless, critical to a technically controlled selection process.

b. Teachers

While the use of outcome measurements to validate student selection criteria may be considered unremarkable, it should be noted that a technical control process uses outcome monitoring information for selection and retention of teachers and administrators. Outcome measurements for teachers are central to teacher hiring and evaluation. Personnel evaluations and actions based upon them, should reflect strongly differential success rates among teachers on outcome measures. Both teachers' and administrators' professional careers are dependent on their students' success rates on outcome measures based on externally determined goals and standards. Such measures, as we have already noted, are not limited to in-school tests. Thus, in a technically controlled school system, the survival of the teacher and the school are bound tightly to the students' ultimate

performance in the larger environment. Also, as the purpose of schooling becomes clearly defined, selection of teachers shifts from an emphasis on "teaching" skills to an emphasis on "technical" qualifications of a specified content area.

Summary

The preceding discussion should not be interpreted to mean that all technically controlled schools will exhibit the same level of administrative development and technical control. Rather, implied in the image of a technically controlled school is a positive relationship between the complexity of the task or skill taught and the level of administrative development and complexity of the technical control mechanism. In other words, a technical control process for schooling implies that schools attempting more elaborate and complex outcomes will have more elaborate and complex administrative structures. The more complex the task, the more elaborate the testing procedure, the greater the requirement for managing the feedback process, and the greater need for active management of the technical process.

Also important to understanding the technical control image are the connections absent in Figure 1. Note that the larger environment does not influence directly either the selection of participants or the features of the school. Instead, as stated above, outcome measures determine these features according to criteria determined by relevant segments of the larger environment which require trained and educated participants. As stated earlier, in a technical control process, the school does not determine the standards which it must meet, but it is allowed

full and free rein in determining the methods it will employ to meet those standards.

In the first part of this paper, we reviewed criticisms of traditional schools. Critics consider them inefficient and ineffective. They argue that a source of these problems is a loosely coupled control system and with a more tightly coupled control system, greater efficiency and effectiveness of the instructional process would be possible.

To determine the extent to which the technical control model is present in non-traditional school settings, we conducted an exploratory study of various educational settings outside the traditional educational sector. The remainder of this paper examines the findings of this study.

II. RESEARCH SAMPLE AND DISCUSSION OF FINDINGS

The alternative educational settings in our preliminary research represent a convenience sample of schools located in the greater San Francisco Bay Area. They were selected for their diversity and variety along such dimensions as proximity or distance from traditional schools; level of complexity and specificity of skills taught; size of school; diversity of goals; and whether they were free-standing or part of a larger organization.

Our sample includes schools that train: bartenders, beauticians, military pilots, military non-commissioned officers, corporate managers and employees in high technology firms, police at a criminal justice academy, firefighters, internal

departmental training for police, color consultants, disabled workers, bank employees, clergymen, radio disc jockeys, department store managers, and computer and technical instrument operators.

The educational settings to which we will refer most frequently in our discussion are described briefly below. Other educational settings that serve as useful examples but are less frequently discussed are not described.

1. Criminal Justice Training Center (CJTC)

The purpose of this center is to train individuals to become police officers. Standards for training are set by a state agency, the Commission on Peace Officer Standards and Training (POST). Annual certification of each criminal justice training course is required by POST. Approximately 40% of the 625 hour course is "hands-on," e.g. driving, weapons handling, physical training, self-defense, and report writing. Courses include: basic training for qualification as a police officer; one week refresher courses are required every two years; courses for promotion to sergeant and lieutenant/captain; and specialized courses (e.g. traffic accident investigation) are taught at this training center. There are approximately 135 part-time instructors and most of them are full-time police officers.

2. Color Consulting School

The purpose of this school is to train individuals to work in the field of personal color and style consultation by providing continuing education for professionals and basic

training for the novice. Initial course approval is granted by the California Superintendent of Public Instruction; additionally, courses must be approved annually by them. Examples of courses offered at the school include color analysis, sources of design and design qualities of the human body, history of costume, psychology of color and dress, make-up principles, and professional ethics. There are two full-time instructors at the school.

3. High-Technology Educational Center

The purpose of the center is to train individuals in the use of this company's products -- computers and technical instruments. Thirty percent of the center's students are employees of the company. The center trains about 4,500 students per year and the average course is about five days long. An average of seven instructors are employed; five are full-time and the remainder are part-time instructors with specialized knowledge. The majority of the courses taught are "commercial," focusing on the use of the company's products, while a few courses focus on specific "technical" information.

4. Bank Training Program

The purpose of this program is to train this company's bank employees throughout the state in both general and specialized areas of banking knowledge. Courses include: information about the bank and banking operations in general; communication skills; teaching managers to conduct performance reviews of their employees; business writing; and supervisory and management skills. Self-paced computerized courses also are offered to

employees. Five trainers teach in this program.

5. Training Center for the Disabled

The purpose of this center is twofold: a) to train disabled individuals (e.g. visual, hearing, orthopedic, developmental, and emotional) in vocational skills; and b) to place students in jobs after completion of training. The vocational education group trains students for eventual employment in areas such as electronic technician, electronic assembly, secretarial skills, and accounting. The center is accredited by both state educational and rehabilitation agencies and trains approximately 600 students per year using full-time instructors.

6. Telecommunications Employee Training Program

This is an in-house educational program in a telecommunications company. It's purpose is to train both general employees and management level personnel. Courses are taught in supervisory and management skills, effective communication, personnel evaluation, company philosophy and compensation plans.

PRELIMINARY RESEARCH FINDINGS

In our research, we do not examine directly the claims of greater efficiency and effectiveness in non-traditional schools. Rather, we look at these schools and ask to what extent they exemplify the technical control model. While it might have been desirable to directly measure efficiency and effectiveness, the

development of measures allowing comparative assessment of these characteristics across the wide variety of settings examined requires more conceptual development than we offer in this paper. However, we gain insight through the examination of the control systems used by the schools in our sample.

The findings of our preliminary research suggest that few schools match the technical model of schooling across the features described in Part I. Schools vary widely in the degree to which they exhibit features of the technical model. Rarely do we see evidence of complete technical control of the educational process, either to evaluate the performance of the teacher, to measure student outputs, or to monitor the presumed link between classroom curricular content and job requirements. Rather, we find that most schools exhibit only bits and pieces of the full technical control system; also, most of the schools we examined are marked by fragments of a technical control system without any overall coherence or connection (see Table I).

A. Concrete Outcome Assessment

The measurement of concrete educational outcomes is central to a direct, technical control mechanism. Because the technical model features a tight linkage between the educational process and work requirements, and the measurement of student output by assessment of actual performance of required tasks, we expected to find mechanisms in place to monitor both the requirements of the school's specific environment and student performance. With the possible exception of the CJTC, most schools in our preliminary research sample do not exhibit this type of control.

1. **Determination of standards**

According to the technical model, standards for performance and what will be tested are determined by relevant segments of the larger environment. Schools themselves do not specify their own standards and criteria for testing. In our sample, we find schools located along a continuum ranging from self-determination of standards and testing criteria to little or no control over those factors. At one extreme (and in accordance with the technical model), at the high-technology educational center, standards are determined by the company of which the school is a part. In this case, the company represents the larger environment and it determines standards.

The rehabilitation school is noteworthy because it features a formal mechanism for assessing or interpreting training needs of the larger environment. The school's training program is influenced substantially by the findings of an advisory board made up of industry representatives who report on the adequacy of the training curriculum. Thus, although the organization itself determines its training goals, it is subject to non-binding review by these committees. Since the committees are made up of representatives of major employers who hire many of the school's graduates, their influence is substantial. Such a relationship is unique, however, in the degree to which the organization receives an independent set of goals from the environment. Most organizations we examined are substantially more autonomous in determining training goals, or exhibit great influence on their constituencies' articulation of training goals.

A wide variety of schools are fully or largely autonomous in their definition of goals or needs to be met by their training activities. The bartender school, the color consulting school, and the telecommunications employee training program all exhibit goals which are largely determined or influenced internally. Although these schools have markets to which they attempt to appeal, most exhibit great influence on them. Thus, the head of the telecommunications employee training program influences the perceptions of his/her superiors about the needs of the corporation for management training, and the color consulting school is central in the development of the field in which it trains; it determines its own goals, standards, and performance measures.

The police and fire department training schools exhibit interesting features in this regard. The fire department is required to meet a set of external training standards required by the insurance industry to maintain favorable fire insurance ratings. While compliance with these standards was reported by the operational fire stations, internal fire department training management tools are only loosely connected to these larger requirements. A separate internal training management system is in place and is used to guide daily activity. The school itself has a central role in determining the content of these training standards. Thus, although we see a set of standards imposed by a larger constituency, the standards are not central to the management of the school. The standards used are in large part influenced by the school itself.

The criminal justice training center exhibits a slight

variation on this theme. Although the school's activities are dictated closely by the state commission, it must be noted that the directors of the school have great influence with the commission. Although they receive much guidance from the larger constituency, the schools have substantial influence in the development of that guidance.

At the other extreme of the continuum, the color consulting school internally determines its own curricula, standards, and performance measures. No external constituency or organization imposes requirements, goals, or standards on the school. The school has a central role in defining the color consulting field itself.

2. Evaluation of Student Outputs

Several schools examined evaluate students in a number of ways that attempt to link directly the educational process directly to job requirements. At the CJTC, students are tested in the twelve functional areas (each with sub-sections) which comprise the basic police officer qualification course. Each sub-section has performance objectives, referenced to state code, and grading criteria. These detail the standards a student must meet to be certified. If a student fails at retesting, s/he is dropped; if a student passes these requirements, s/he is certified. Testing materials are developed at the academy level and must be referenced to the course outlines. A statewide test question file is being developed. Standardized performance tests are also given for the 40% of training that is hands-on. The military non-commissioned officer course also evaluates its

students using a number of standardized written and performance tests organized in a manner similar to that used by the CJTC. The military pilot training school has a standardized testing program featuring exams and check flights during its twenty-five day course. These tests, however, are not as standardized and controlled as the tests at the CJTC and require use of judgment and evaluation by the instructor. Thus, although there is an elaborate student evaluation program in these schools, the standards which must be met are in large part influenced or interpreted by the instructors themselves.

Students at the color consulting school are required to take an exam at the end of each course and a successful performance on the exam is required before the student can take the next sequence of courses. When all coursework is completed, the student takes an apprenticeship and his/her on-the-job performance is supervised by the teachers at the school. Thus, the color consultant school appears to have more methods by which to evaluate and measure student output; however, unlike the technical model, these standards are determined internally by the organization. The link between job requirements and testing also is determined internally.

Most of the schools in our research sample do not have mechanisms in place for evaluating and measuring student output. This is true of the bank program, the telecommunications program, the high-technology education center, and the training center for the disabled. Students are not tested or asked to demonstrate newly learned skills at the conclusion of courses. At the

telecommunications company, "behavioral" changes are looked for in employees (by their managers) by informal means, as an outcome after completion of a course, but the desired changes are not explicitly stated or evaluated. At the training center for the disabled, students' skills are "tested" eventually in the job market, but the organization does not test students at the conclusion of courses. At the high technology education center, although the center's curricula is determined by its parent company, there are no student testing or evaluation procedures. Students attend courses and receive certificates of attendance; no outcome monitoring procedures or performance requirements are featured.

As discussed above, the ideal type technical control system does not stop with an evaluation of the student on conclusion of the course or training. The student is further evaluated in actual, on-the-job task performance, since it is the improvement of this performance that is the ultimate goal of the technically controlled school. This degree of development is found only in one of the schools we examined. The notable exception is the military pilot training program. It is the only training program of the twenty that we researched which attempts to conduct any systematic evaluation of its training activities after the students have graduated. As noted above, both the CJTC and the military non-commissioned officers training program systematically evaluate individuals during or immediately after their formal training, but as with the other schools, organized evaluations stop at the boundary of the school. The military pilot training school, however, sends out a questionnaire to the

pilot's unit six months after completion of training, asking for an evaluation of both the pilot's job performance and the training s/he received. The responses to this questionnaire are used to modify the course content and procedures. Both the police and fire department training programs receive informal feedback on their courses but this feedback is irregular and unsystematic.

B. Linkages Between Outcome Tests and Educational Process

We have noted that the technical control model features specific outcome testing and a tight link between job requirements and these outcome tests. This model also features a tight linkage between outcome tests and the educational process. Results from outcome tests are the central means by which the school manages the educational process and ensures that it effectively and efficiently trains its students for relevant work requirements. Therefore, we would expect to find explicit control linkages which use outcome tests to monitor this educational process.

Our findings indicate that while we see many schools with some type of evaluation procedure in place, few of the schools in our sample have a formal mechanism for the use of outcome measures in the management of education programs. Other schools have partial, fragmented linkages between outcome measures and the education process. Notable is the degree to which the evaluations conducted in the schools are designed primarily to evaluate the individuals trained and not the training programs themselves.

1. Organizational Characteristics of the School

a. Evaluation of the Teacher

At the CJTC, we find evidence of some direct administrative supervision of the educational process through in-class inspection and evaluation of teachers, although these evaluations are not related directly to outcome measures. Classroom visits or inspections are conducted by a number of agencies; POST inspects classes approximately every four years (as part of a major on-site review of the academy), while class visits by POST consultants occur once every one to two months. Additionally, agency representatives who send students to this school evaluate classes and instructors via direct inspection by full-time officers from local police departments. Course evaluations by student satisfaction questionnaires are required by the state (as a means of indirect teacher evaluation) and results are returned to the academy and to the instructor. The academy also has its own student evaluation form which has been used as a basis for rehiring or not rehiring teachers. In our sample, the academy most closely resembles the tightly linked technical control model. Performance tests based on standards of the external environment, are conducted and the information is used to evaluate teachers and manage the educational process. Many of the links in the system, however, are informal and diffuse. Central to the system are a variety of process oriented measures, such as student evaluations and classroom inspections by external agencies. Therefore, the CJTC cannot be considered a full technical control system. It exhibits many of features of one,

however, it is has an overlay of broader, more diffuse, and process-oriented control mechanisms. Even here, outcome measures, although important, are not central nor are they linked formally to the evaluation of teachers or to the management of the educational process.

In most of the schools in our sample, evaluation of teachers is not linked tightly to measures of student output. At the high-technology education center, once an instructor is considered qualified to teach a particular course, s/he receives very little in-class supervision. Evaluation of teacher performance is accomplished primarily through student satisfaction evaluations. There have been instances when these student evaluations were used as one criteria by which hiring/rehiring decisions about teachers were made. It should be noted that student evaluations are not outcome measurements and can be based on criteria not central to, indeed, irrelevant to, job requirements or instructor effectiveness.

At the bank training program, student evaluations also serve as the principal means by which the teacher (trainer) is evaluated. Rarely are trainers evaluated or supervised by administrators on their classroom performance. No outcome information is used. At the police department, teachers are supervised closely only for the first forty hours after they are selected. After that, they are supervised closely only if they are considered incompetent. This determination is not made on outcome measures since students are not tested.

In the examples discussed above, we do not find evidence

that direct, technical control via outcome measures of teacher performance is used to link the educational process to technical requirements of work. In most of the schools in our sample, little or no administrative effort is focused on the improvement of outcome measures through teacher evaluation or the management of the educational process itself.

b. Administrator to Teacher Ratio

Implicit in the technical control model are two predictions concerning the staffing of technically controlled schools. First, the model suggests that because of the focused and goal oriented nature of the organizations, they will need fewer support or staff personnel because the schools will not have to determine broad curricular goals, provide a wide variety of extraneous services, or concern themselves with non-educational activities. Unfortunately, due to the exploratory nature of this investigation, we do not have sufficient data to comment on this prediction.

Second, the model suggests that administrative activity within the technically controlled school is dominated by the results of outcome measures. Therefore, we would expect to find that technically controlled schools will feature a high ratio of line administrators to teachers. We suggest that this is due to the large amount of information which must be managed in such a system since test results are used to evaluate teachers, students, curriculum, programs, and teaching techniques.

The results of our exploratory study are informative but our findings are preliminary and somewhat problematic. There is wide

variation in: the size of schools visited; the sector in which the school is located; the level of difficulty or complexity of the subjects taught; and in many other potentially significant dimensions for which we do not control. Nonetheless, our results tend to support the second prediction that non-traditional schools feature a high level of line administrative activity.

The bank training program has one full-time administrator to five full-time trainers. The management training center has a similar 1:5 ratio; the high technology education center has one full-time administrator for six full-time instructors and one part-time instructor. The military pilot training program has three full-time and three full-time equivalent (FTE) part-time administrators for approximately eighty instructors; the military non-commissioned officers training program has three administrators to 25 instructors; the broadcasting school has one full-time administrator to ten part-time instructors; the bartender school has a ratio of 1:4, administrators to teachers. The criminal justice training center has three full-time administrators and approximately 45 FTE instructors. In addition, five full-time police officers from local departments served by the center are sent to evaluate both the individual cadets (students) and the instruction.

The preliminary data seem to support our prediction that schools located outside of the traditional educational sector feature high line administrative intensity, with administrator to teacher ratios varying from 1:5 to 1:20.

c. Curricular Control

Control of curriculum is a more prevalent type of control found in our sample of schools; generally, this is accomplished through centralized curriculum development that results in the use of standardized courses. Nonetheless, it is not clear if the content of courses is linked tightly to actual job performance requirements and how this is inspected. Nor is it clear in what form standardized curricula is actually implemented in classrooms.

The CJTC exhibits the most stringent curricular control and more closely resembles the technical model than the other schools we studied. Course length is specified at the state level - 636 hours; POST determines and develops the required curriculum for all academies. Courses have specific performance objectives which are referenced to relevant state codes; if a student does not meet these performance standards (after retraining and retesting) s/he is dropped from the academy. The classes have "basic course unit guides" which are detailed lesson plans for instructors. These include outlines, reference notes, and illustrations. Students are furnished with outlines for each class which cover such things as basic definitions, performance requirements and procedures. There appears to be a direct link between curricular content, job requirements and student output tests. The CJTC is also notable because it features the only outcome based school evaluation procedure found in the sample. At the end of the basic course, the students are given a comprehensive final exam, covering material from the core course. The results of the test are not significant for the students

(they are passed or failed based on the tests given throughout the course). Instead, the results from this final exam are used to evaluate school performance. The state compiles the test results, each school receives information on its performance in the twelve functional areas (e.g. average student score) and the overall state-wide average performance. If the school is below average, attention is focused on the school in the relevant functional areas. Schools which do exceptionally well are held up as examples. This central feature of a technical control model is noteworthy primarily for its rarity -- only the CJTC features any sort of outcome based program evaluation procedure.

At the bank, trainers from the central training office develop and teach courses for bank employees throughout the state. Trainer manuals and student workbooks are published for each course. This is true for the high-technology educational center and the telecommunications employee training program which also have standardized curriculum. The staff develops training materials. Instructor manuals are published and distributed from a central office; these include overhead slides, teaching notes, outlines and technical manual references. It would be erroneous to assume that this seemingly tight curricular control serves only functional (organizational efficiency) or technical purposes. Curricula are tightly controlled but adherence to them is not inspected and the results of the curricula are not evaluated using outcome measures. The training center for the disabled exhibits mild curricular control. A vocational education group reviews course content and is influenced

strongly by review committees from local industry. However, instructors have considerable latitude in adjusting curriculum within the guidelines determined by the review committee. This school combines external determination of standards with loose management of the educational process. Similar freedom to deviate from an assigned curriculum is found at the high technology education center. Although the curriculum is highly specified, a valued trait in teachers is the ability to tell "war stories;" to deviate from the standardized curriculum with personal reminiscences and experiences. A specified curriculum is thus combined with encouragement to deviate from that curriculum.

The color consultant school is more perplexing; it uses a range of controls along a continuum from most to least technical. The curriculum is specified by required hours, 343, approved by the state (Private Postsecondary Education Division regulations), but length and content are determined by the school staff. The content is very detailed and technical and students are required to take exams. Courses are progressive and build on information taught in previous courses. The connection between the educational process and technical job requirements is not clear, although students are required to put their knowledge to test in an apprenticeship after they have completed coursework. The color consultant school combines elaborate technical control mechanisms with complete internal definition of goals, curriculum, and performance standards.

d. Teacher Role

As discussed in the previous section on curricular control, teachers in our sampled organizations are provided with standard curriculum guidelines. However, as also discussed in our section on evaluation of teacher, except for the CJTC, where classrooms are inspected regularly, and at the internal departmental training for police where instructors are supervised for the first forty hours of instruction, there appears to be little or no classroom inspection in the rest of our sample. Thus, we infer that unlike the technical control model, the teacher appears to have a high degree of autonomy within the classroom -- similar to that of a teacher in the traditional educational sector. While a specific curricula is said to be followed in the schools we studied, teaching methodology, i.e., how to best teach the skills being taught, seems to be left entirely to the teacher's discretion.

2. Selection of Participants

a. Students

In the technical control model we would expect to find admissions and selection criteria validated by the results of outcome monitoring tests. If this link actually is present, future participants should be selected according to criteria useful in predicting the success rates of trainees in final outcome tasks. In many of the alternative schools in our sample, we do not find evidence of a link between admissions and selection criteria and success rates of trainees on final outcomes tasks. One reason is that many courses do not have

final outcome tasks and measures. For example, at the bank and the telecommunications company which provide courses for company employees, students are not tested or asked to perform skills that would indicate more effective performance on the job. Additionally, these educational programs do not have a selection process. Except for courses reserved for management level company employees, the programs have no screening criteria. The color consultant school does not have specified admissions criteria but does monitor student outcomes by requiring students to complete supervised apprenticeships. How performance while on-the-job is measured is not clear.

Students at the bartending and beautician schools are not selected on criteria that predict their success rate in final outcome measures. What they are taught in school addresses this issue, but again, there is an incomplete link between admissions criteria and results from monitored outcome tests, specifically because there are no admissions criteria.

b. Teachers

In the technical model, we would expect teachers to be selected on the basis of their proven ability to teach students who then perform successfully on outcome measures. This would mean proven ability in both technical skills and in teaching ability with more emphasis placed on expertise in skill being taught than on "teaching" ability.

Although many of the schools in our sample require technical proficiency in the skill area taught, most do not actually test or evaluate teacher skill in the subject matter area. If

evaluation does take place, it is generally done before hiring. Once hired, an instructor is presumed to have the necessary skill. An example of this is the military flight instructor program. Flight instructors are chosen on flying ability (mostly reputational) and not on their ability to teach others how to fly. Specific performance requirements are not specified regarding what a pilot must be able to do to be a flight instructor. Fire department personnel are accepted as instructors based on seniority and expressed interest and then are sent to a state institute for two to three weeks to learn to be an instructor. At the training center for the disabled, instructors are required to have areas of expertise and an industrial education credential requiring five years of general experience in the area. At the bank, the high-technology education center, and the telecommunications educational programs, the connection between teaching role, technical skills, and performance outcomes is vague. At the high-technology education center, teachers with previous teaching experience as well as five to seven years of work experience using the company's equipment are preferred. The police department program is the only school that has a requirement for actual testing of teaching ability.

Throughout the sample, then, we find that selection criteria are diffuse and vague. Neither skill nor teaching abilities are measured or evaluated consistently and outcome measures play almost no role in teacher selection or evaluation. Student selection criteria are also vague; only rarely do schools attempt to validate the admissions criteria by using outcome measures.

III. CONCLUSION

We have conducted an exploratory study on the organization of schools outside the traditional educational sector. We question claims suggesting that schools in non-traditional settings are substantially different than schools in traditional settings. Further, this study raises questions about the widespread belief that the more distant the instructional unit is from the institutional educational sector, the more inspection, direction, and evaluation based on outcome measures are utilized in the organizational control process. Additionally, our preliminary findings raise questions about the belief that schooling outside the traditional educational sector is both a more efficient and a more effective system. Our initial observations suggest that education occurring outside the traditional educational sector is not organized in a manner wholly distinctive from traditional schools. Schools in alternative settings tend to exhibit many of the organizational properties of conventional schools from the credentialled teacher and the credit unit to "good faith" controls rather than direct inspection of instructional or learning outcomes. We suggest that it is their resemblance to traditional schools which allows them to make use of those features of technical control that they exhibit.

We are in the process of designing a broader study on the organization of schools outside the traditional educational sector in which we will collect both quantitative and qualitative data to investigate further alternative school arrangements and their organizational forms.

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Table I. Characteristics of an ideal type technical control model.

Characteristics	Schools					
	Criminal Justice Training Center	Color Consulting School	High Technology Educational Center	Bank Training Program	Training Center for the Disabled	Telecommunication Employee Training Program
School goals determined by larger constituency	*	-	*	-	*	-
Student outcome testing	*	*	-	-	-	-
Follow-up of students: on-the-job performance	-	-	-	-	-	-
High curricular control	*	*	*	*	*	*
In-class evaluation of teaching -- on going	*	-	-	-	-	-
Low teacher autonomy	*	-	-	-	-	-
Teacher selection: emphasis on technical skills versus teaching skills	*	*	*	0	*	0

* characteristic of school
\- not a characteristic of school
0 data not available

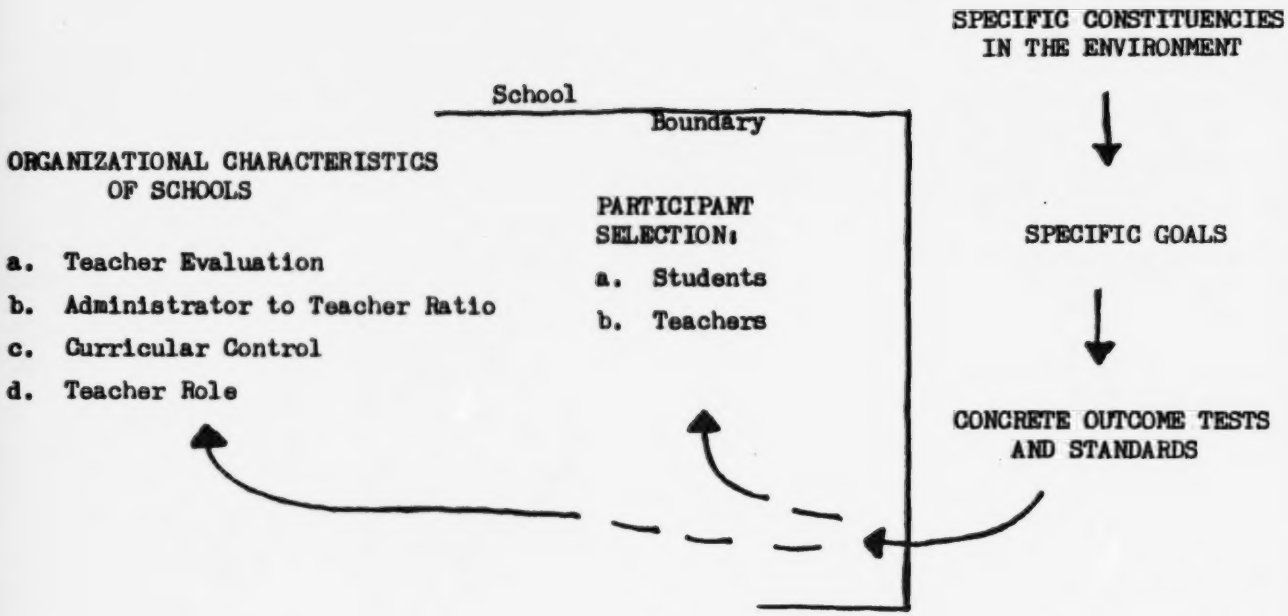

Figure 1. Linkages between outcome tests & educational process in an ideal type technical control model of schools.